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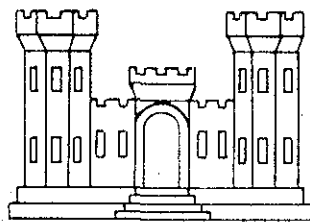
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PRELIMINARY EXAMINATION  
(REVIEW OF REPORTS)

OF

PROVINCETOWN HARBOR

MASS.



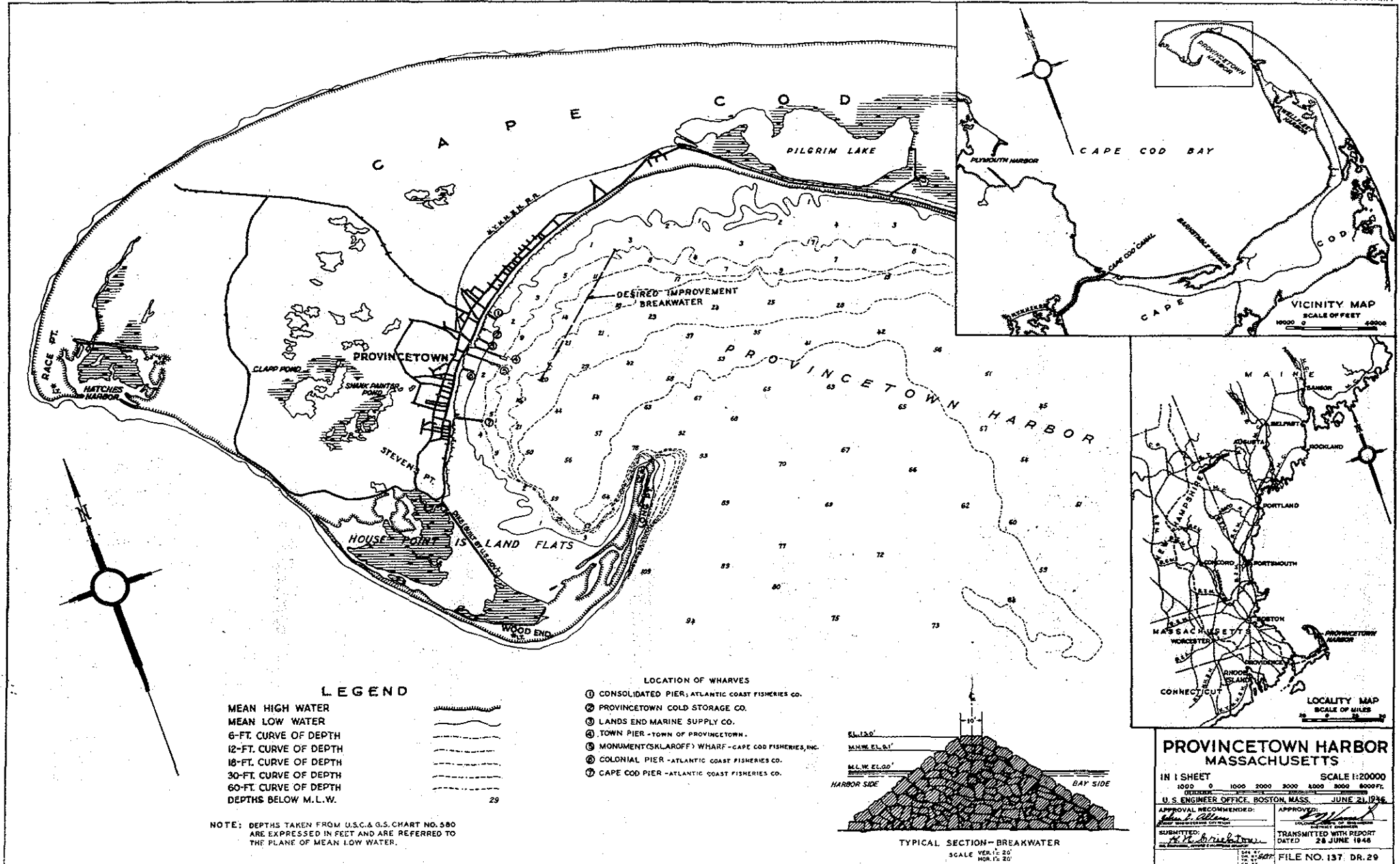
AUTHORITY—THIS REPORT IS  
SUBMITTED IN COMPLIANCE  
WITH RESOLUTION, ADOPTED  
21 DEC 1945. BY THE COMMITTEE  
ON RIVERS AND HARBORS OF  
THE HOUSE OF REPRESENTA-  
TIVES, U. S. A.

U. S. ENGINEER OFFICE  
BOSTON, MASS.  
28 JUNE 1946.

COPY NO. 17

*By Sec. of Provincetown Mass*  
Jul 11 10 02 AM '46

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SUBJECT: Preliminary Examination (Review of Reports) of Provincetown  
Harbor, Massachusetts

NEDGW  
(28 Jun 46)

1st Ind.

CAT/mms

Division Engineer, New England Division, Boston 10, Mass., 9 July 1946

TO: The Chief of Engineers, U. S. Army, Washington 25, D. C.  
ATTENTION: ENGR

I concur in the recommendation of the District Engineer.



D. L. WEART  
Brigadier General, U.S.A.  
Division Engineer

1 Incl.: n/c

PRELIMINARY EXAMINATION (REVIEW OF REPORTS)  
OF PROVINCETOWN HARBOR, MASSACHUSETTS

Syllabus

The district engineer is of the opinion that the improvement of Provincetown Harbor, Massachusetts, by construction of a breakwater to provide a harbor of refuge and protect the local fishing fleet, is worthy of further investigation. He, therefore, recommends a survey of Provincetown Harbor, Massachusetts to determine the cost of the improvement desired by local interests and the extent and cost of the improvement which may be found justified, together with the proper basis of cooperation by local interests.

War Department,  
United States Engineer Office,  
Boston 16, Massachusetts,  
28 June 1946.

Subject: Preliminary Examination (Review of Reports) of Provincetown Harbor, Massachusetts.

To: The Chief of Engineers, U. S. Army, Washington, D. C.  
(through the Division Engineer, New England Division).

1. Authority.- This report is submitted in compliance with the following resolution adopted 21 December 1945, by the Committee on Rivers and Harbors of the House of Representatives, United States Congress:

RESOLVED BY THE COMMITTEE ON RIVERS AND HARBORS OF THE HOUSE OF REPRESENTATIVES, UNITED STATES, That the Board of Engineers for Rivers and Harbors be, and is hereby, requested to review the reports on Provincetown Harbor, Massachusetts, contained in House Document Numbered 821, Sixty-first Congress, second session, and subsequent reports, with a view to determining whether further improvement of the harbor is advisable at the present time.

2. Reports under review.- The report printed in House Document No. 821, 61st Congress, 2d session, which was authorized by the River & Harbor Act approved 3 March 1909, recommended a rubblestone dike across House Point Island flats, from Stevens Point to Wood End, to be built to elevation 15 feet above mean low water with a top width of 5 feet, and for a 300-foot extension of the

Long Point beach protection and bringing it up to grade where necessary, at an estimated cost of \$140,000. The project was adopted by the River and Harbor Act of 25 August 1910.

3. A resolution adopted 8 August 1939 by the Committee on Commerce of the United States Senate called for a review of reports to determine the advisability of further improving the harbor. The report which was submitted 16 August 1940 was unfavorable to a survey, it being the opinion of the district engineer that the desired improvement would entail an expenditure far in excess of any anticipated general benefits and could not be economically justified.

4. Description.— Provincetown Harbor, located in the bight at the northern extremity of Cape Cod, is an important harbor of refuge on the Atlantic coast. It is about 40 miles southeast of Gloucester, 24 miles northeast of the Cape Cod Canal, and about 40 miles southeast of the entrance to Boston Harbor. Owing to its conformation, definite dimensions cannot be given, but it contains several square miles of anchorage area with depths ranging from 6 to over 70 feet. Between the harbor and the ocean is a mass of sand dunes, of which those on the harbor side are covered with vegetation, while those on the ocean side, covering the greater part of the area, are of loose, shifting sand. The harbor is well protected.

5. There are no bridges crossing Provincetown Harbor. The desired improvement would not, it is believed, cause any shore-line changes. There are no questions of water power, flood control, land reclamation, or wildlife conservation involved. The mean range of tide is 9.1 feet and the spring range 10.6 feet. The locality is shown on United States Coast and Geodetic Survey Charts Nos. 580 and 1208, and on the map accompanying this report.

6. Tributary area.- Provincetown is essentially a fishing community composed mostly of fishermen and their families. In 1940 its population numbered 3,668. The town has no industrial significance and is unimportant as a trading center except for a few small settlements in the immediate vicinity. Wellfleet, a small fishing town about 12 miles distant, is the nearest place of any importance. The population of this town in 1940 was 890. Fishing and its related activities contribute a large part of Provincetown's revenue. There were 873 persons employed in the fish industry during the year 1945 who received \$1,871,700 in wages.

7. Cape Cod is one of the most popular summer resorts in New England. During the summer season the population of Provincetown is greatly increased through the influx of visitors, which affords another important source of revenue to many of the inhabitants. Among the chief attractions of the town are its historic background and the activities of a large art colony with which have been associated the names of some of the leading artists in the country.

8. The locality is served by the New York, New Haven and Hartford Railroad, and by a single improved highway which connects with the main arteries of the state. During the summer season a steamboat line maintains a daily round trip service between Boston and Provincetown.

9. Prior reports.- There have been no reports on Provincetown Harbor submitted during the past five years.

10. Existing project.- Provincetown Harbor was first improved under a project adopted by the Act of 20 May 1826 which provided for the preservation of the point of land forming the harbor. The work consisted of building bulkheads of wood and stone, jetties of wood and brush, dikes, catch-sand devices, and extensive planting of beach grass at several points in the area. Expenditures under this

project were \$215,800.44, all of which was for new work.

11. The existing project, adopted by the River and Harbor Act of 25 June 1910, provides for a rubblestone protection dike 5 feet wide at the top and 15 feet above mean low water, across House Point Island Flats from Stevens Point to Wood End, a distance of 6,150 feet, and for a 300-foot extension of the Long Point beach protection and bringing it up to grade where necessary. The latest published map is in the project document. (H. Doc. No. 821, 61st Cong., 2d sess.)

12. All work under the existing project has been completed except the 300-foot extension of the Long Point beach protection and bringing it up to grade where necessary. The project as a whole is 90 per cent completed. Expenditures to 30 June 1946 amounted to \$173,782.01, of which \$131,653.28 was for new work and \$42,128.73 was for maintenance. The latest (1928) approved estimate for annual cost of maintenance is \$500.

13. Local cooperation.- There were no prescribed conditions of local cooperation in the adoption of the existing project.

14. Other improvements.- The Commonwealth of Massachusetts has at various times since 1923 made improvements at Provincetown for shore protection, and dredged the approaches to the wharves used by the steamer lines which maintain a summer service from Boston. The improvements for shore protection have consisted of placing 2,057 linear feet of riprap at the east end of the town's waterfront; the construction of 26 groins, each 125 feet long, in about 1 mile along the waterfront from the west end of the riprapped section; and the construction of 4 groins along the outer beach, each 150 feet in length and about 400 feet apart, beginning at a point approximately 2 miles northwest from Wood End Light. The total expenditure by the Commonwealth of Massachusetts to June 1940 was \$104,237.88, of which \$17,575 was contributed by local interests. The Commonwealth of

Massachusetts will receive bids in the near future for dredging the area around the Town Pier to restore a depth of 12 feet at mean low water. The cost of this work is estimated to be about \$20,000, of which amount \$10,000 has been provided by the town of Provincetown. Other improvements of lesser importance have consisted of dredging by private interests of berths and approaches to wharves with dimensions commensurate with their needs.

15. Terminal and transfer facilities.— The developed waterfront of Provincetown is approximately  $1\frac{1}{2}$  miles in extent and is for the most part privately owned. There are 7 piers in this area which handle the entire commerce of the harbor. Only 3 of these piers extend beyond the low water line, one of which is owned and maintained by the town for public use on equal terms. None of the piers has railroad connections. A large part of the developed waterfront of the town is unoccupied and affords possible sites for terminal expansion. The terminal facilities at Provincetown are listed below:

No.	Name and Owner	Type of Construction	Depth at M.L.W.	Mechanical handling facilities	Purpose for which used
1	Consolidated Pier; Atlantic Coast Fisheries Co.	Open pile timber pier, about 400 feet long.	Dry at low water.	Electric trolley hoist.	Private; handling & storage of fish.
2	Provincetown Cold Storage Co.	Single row, open pile structure, about 400' long.	Dry at low water.	Cableway.	Private; handling of fish.
3	Lands End Marine Supply Co.	Open pile timber structure, about 300 feet long.	Dry at low water.	None.	Private; servicing of boats.
4	Town Pier; Town of Provincetown.	Open pile timber pier, about 1300 feet long.	East side 0-7'; west side 0-14'.	1 chain hoist; 2 small steam operated chain hoists.	Public; handling fish, steamer landing, misc. uses.
5	Monument (Sklaroff) Wharf; Cape Cod Fisheries Inc.	Open pile timber pier, about 1325 feet long.	East side 0-14'; west side 0-7'.	2 small steam operated chain hoists.	Private; handling fish, steamer landing.
6	Colonial Pier; Atlantic Coast Fisheries Co.	Open pile timber pier, about 500 feet long.	Dry at low water.	Steam operated trolley hoist.	Private; handling of fish, misc. uses.
7	Cape Cod Pier; Atlantic Coast Fisheries Co.	Open pile timber pier, about 1050 feet long.	0-4 feet.	Steam operated cable hoist.	Private; handling of fish.



16. Improvement desired.- In order to ascertain the nature and extent of the improvement desired, a public hearing was held on 10 May 1946. This hearing was held at Boston, Massachusetts at the request of local interests in order to permit interested parties from Gloucester, Boston and New Bedford to be present. Among those in attendance were state representatives; the state senator who is Chairman of the Committee on Harbors and Public Lands; members of the Provincetown Harbor Committee; representatives of the Coast Guard, the Gloucester Fishing Vessels Owners Association, the Gloucester Fisheries Association, and the Electric Boat Company of Groton, Connecticut; many fishermen from Provincetown Harbor and New Bedford; and interested citizens of Provincetown.

17. The improvement desired, as outlined by local interests, provides for a continuous breakwater about 5,800 feet in length, beginning at a point opposite the Monument Wharf, about 3,000 feet from shore in about 20 feet of water, and extending in a northeasterly direction approximately parallel to the waterfront of the town, to a point about 2,000 feet from shore in about 4 feet of water.

18. The principal reasons presented at the hearing in support of the desired improvement are summarized as follows:

a. It would provide a much needed harbor of refuge for vessels from all over New England and especially fishing vessels from Gloucester, Boston and New Bedford when fishing off the Cape.

b. The improvement would protect the local fishing fleet when in port from damage and losses caused by storms from the south and southeast.

c. It would prevent damage to wharves, piers and docks along the waterfront.

d. It would attract new companies engaged in packing and freezing fish to Provincetown and thus would permit expansion of the local fleet which, at times, is unable to find an outlet for its catch.

e. It would make possible the permanent stationing of a Coast Guard rescue boat at Provincetown, with resultant increased safety to vessels fishing off the east side of Cape Cod.

19. The Chairman of the Committee on Harbors and Public Lands of the Massachusetts Legislature was present at the hearing and stated that his committee had made a favorable report on the improvement and that they were now awaiting action by the Federal Government before requesting funds to be applied towards the cost of the improvement. The Chairman of the Board of Selectmen stated that in his opinion a substantial financial contribution could be expected from the town of Provincetown.

20. Commerce.— The following table gives a comparative statement of the traffic for the years 1936 to 1945, inclusive, and a statement of the traffic for 1945 in detail.

Comparative Statement of Traffic

<u>Year</u>	<u>Tons</u>	<u>Passengers</u>	<u>Year</u>	<u>Tons</u>	<u>Passengers</u>
1936	(1)	122,398	1941	6,387	80,501
1937	(1)	211,582	1942	6,516	(2)
1938	500	63,044	1943	6,628	70,261
1939	11,003	69,055	1944	12,362	109,064
1940	6,371	67,902	1945	17,330	137,352

(1) No freight reported.

(2) Passenger service discontinued for 1942.

Freight Traffic, 1945

<u>Domestic</u>			
<u>Coastwise Receipts</u>	<u>Tons</u>	<u>Coastwise Shipments</u>	<u>Tons</u>
Animal Products, N.O.S.		Anthracite Coal	200
Fish, Fresh	12,022	Petroleum Oils, Refined	
Manufactures and Misc.,		Gasoline, Bunker	411
N.O.S.		Fuel Oil, Bunker	1,525
General Merchandise	10	Lubricating Oils & Grease	
		Lubricating Oil, Bunker	22
Total Coastwise Receipts	12,032	Total Coastwise Shipments	2,158

<u>Local Receipts</u>	
	<u>Tons</u>
Animal Products, N.O.S.	
Fish, Fresh	3,140

Grand Total, all Traffic 17,330 tons

The quantity of 42,610,000 lbs. of fish handled at Provincetown as quoted by local interests at the hearing was based upon a preliminary report and estimate of the Fish & Wildlife Service. The official figures are given above.

21. Vessel traffic.-- Provincetown Harbor is used regularly by about 236 boats which comprise the local fishing fleet. This fleet consists of about 80 dories 30 to 40 feet long, 48 draggers 40 to 70 feet long, with drafts ranging from 3 to 11 feet, and 108 other boats of various types and drafts, such as rowboats, lobster boats, weir boats, etc. In addition, the harbor is used by an indeterminate number of fishing craft and commercial vessels as a refuge from storms. During the summer season a local steamship company maintains a regular service between Boston and Provincetown. In 1945 this vessel handled 137,352 passengers. The use of the harbor is further increased during the summer by recreational boating, both local and from other localities. It is estimated that during 1945 fish was delivered in approximately 11,066 round trips of motor fishing vessels with drafts ranging generally from about 5 to 11 feet.

22. Difficulties attending navigation.-- According to statements made at the public hearing, the principal difficulties attending navigation results from the exposed location of the harbor from the southwest around through the south to the southeast. During strong winds from these quarters, especially from the south and southeast, serious losses have occurred both to boats and shore property. The lack of protection from these storms, it was claimed, served to prevent Provincetown from being used to its fullest extent as a much needed harbor of refuge.

23. Discussion.- Provincetown Harbor is important both as a fishing port and as a harbor of refuge. In 1945 it ranked fourth in New England in the amount of fish handled, being exceeded only by Gloucester, Boston and New Bedford. According to the Fish and Wildlife Service of the Department of the Interior, it has had a remarkable growth in the past few years in this respect. Located on the extreme tip of Cape Cod, this port has the advantage of being situated near good fishing grounds, so that catches can be brought to port promptly. The draggers fish in the adjacent Cape Cod Bay in winter, and in summer work the exposed ocean coast, the "back side" of the Cape, an area noted for its dangerous shoals and lack of shelter for mariners.

24. It was brought out at the hearing that existing facilities for processing fish at Provincetown are taxed to capacity at certain times, with the result that local fishermen are restricted both as to the amount and kind of fish that they can bring into Provincetown Harbor. This situation occurs at times even when there is a market for fish outside of Provincetown. It was stated at the hearing that additional plants have investigated the conditions at Provincetown but have been reluctant to invest capital in building additional plants and wharves because of the lack of protection for the wharves in times of severe storms from the southeast. The proponents believe that the desired improvement would result in additional fish processing plants being established at Provincetown and that, as a consequence, the amount of fish handled there would be materially increased.

25. As a harbor of refuge Provincetown provides good shelter from all directions except the south and southeast. Formerly considerable use was made of the harbor by all types of vessels but with the improvement of the Cape Cod Canal by the United States the amount of general traffic dependent upon Provincetown for shelter has been reduced. However, fishing vessels especially still require the protection afforded there.

26. In addition to interested parties from Provincetown desiring the improvement, there were representatives of the fishing industries from Gloucester, Boston and New Bedford who advocated the construction of a breakwater just as strongly. Each of these speakers pointed out that under present conditions fishing vessels working off the Cape had no adequate shelter in case of storms from the south and southeast. While the local fishermen could run into Provincetown in about three hours and tie up at their own moorings, vessels from other ports were still in danger of dragging anchors and going ashore if they put into Provincetown. Therefore, if it appeared at all possible to ride out the storm, they usually elected to stay at sea after storm warnings were received, rather than lose about a day's fishing by retreating to their home ports. As a consequence of this action, lives and vessels have been lost on these fishing banks. The Secretary of the Gloucester Fisheries Association stated that upwards of 1,000 vessels from all over New England fished at one time or another within close proximity of Provincetown Harbor. He stated that the commercial fishermen of Gloucester believed that the breakwater at Provincetown is absolutely necessary and that their vessels would use the harbor if it were protected by a breakwater.

27. Local fishermen from Provincetown were present at the hearing and related personal experiences of losing their vessels during southeast storms. A list of about 25 vessels lost or damaged during the period 1940-1945 was presented. These losses occurred at various times during seven different months of the year. In this same period one life was lost while trying to avert damage. It was brought out that in stormy weather fishermen had to attend their boats day and night to prevent damage and that even in spite of extremely heavy moorings vessels were torn loose from their cables and driven ashore.

28. A representative of the United States Coast Guard at Boston was present and put the Coast Guard on record as being in favor of any project which would give Provincetown more protection. He stated that the Coast Guard has a life boat stationed in the southern part of Provincetown Harbor and each year they have well over one hundred assistance jobs within the harbor that are due entirely to the frequent storms and the trouble caused by the fact that Provincetown is an open harbor. He explained further that the Coast Guard believed it was very necessary to have a large sized rescue boat located at Provincetown in order to carry out rescue and assistance work in that area. However, their experience during the war proved that this was now impossible because of the openness of the harbor and that therefore they have stationed such a boat at Sandwich at the entrance of the Cape Cod Canal. Under this arrangement several hours, and sometimes the better part of a day, are required to get out to a vessel in distress and give it assistance.

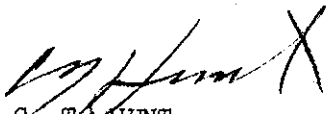
29. The Electric Boat Company of Groton, Connecticut has conducted trials of over 100 submarines off Provincetown in the last thirty-one years, and their representative stated that in that period, during which he had been there in every month of the year, there had not been a single time but what he had had to stop his runs because of storms making it too dangerous to move men and supplies between the submarine and the shore. He believed the desired improvement would be an advantage to his company in carrying out their testing work.

30. The location of the improvement desired by proponents is somewhat different from that requested in 1939. It is changed so that it now extends slightly farther to the east and it would be situated in somewhat shoaler water. Whether the suggested location is the most suitable, and whether or not sufficient protection may be obtained by a shorter structure, can only be determined after a survey and additional investigation and study.

31. Local interests feel that the desired improvement is extremely necessary to the welfare of the town and that without it Provincetown cannot survive as a fishing port. In order to permit this industry to remain alive and grow, local interests believe that a substantial contribution will be forthcoming by the town towards the cost of the project. It is probable that the Commonwealth of Massachusetts will contribute dollar for dollar with Provincetown towards the project.

32. Conclusion.- In view of the foregoing, the district engineer is of the opinion that the improvement of Provincetown Harbor, Massachusetts by the construction of a breakwater would result in both local and general benefits to navigation, and that a survey is necessary to determine the cost and extent of the improvement that may be found justified.

33. Recommendation.- The district engineer recommends a survey of Provincetown Harbor, Massachusetts to determine the cost of the improvement desired by local interests and the extent and cost of the improvement which may be found justified, together with the proper basis of cooperation by local interests.

  
C. T. HUNT,  
Colonel, Corps of Engineers,  
District Engineer.

Inclosure:  
Map

